CLAIMS

WHAT IS CLAIMED IS:

1. A compound indenter for a wire connector pin, the pin having an axial length and an opening at an end thereof for receiving a wire having an exposed portion and an insulation covered portion, the opening being sized to receive both the exposed portion and a length of the insulation covered portion, the indenter comprising:

a first indenter having a plurality of indenting elements for engaging the pin in an axial location overlaying the exposed portion of the wire inserted in the pin;

a second indenter having a plurality of indenting elements for engaging the pin in an axial location overlaying the insulation covered portion of the wire inserted in the pin; and

apparatus for advancing the indenting elements of each of the first and second indenter generally concurrently for compressing respective sections of the pin into engagement with the exposed wire portion and the insulation covered portions of the wire.

2. The compound indenter of claim 1 wherein the indenting elements comprise a plurality of radially moveable elements.

3. The compound indenter of claim 2 wherein the apparatus for advancing the radially moveable elements of each indenter comprises a corresponding rotatable cam surface engaging a radially outer end of each of the radially moveable elements of each respective indenter.

4. The compound indenter of claim 3 wherein each rotatable cam surface is coupled to a pivotable handle of a plier type hand tool.

5. The compound indenter of claim 3 wherein each rotatable cam surface is coupled to a pivoting arm having a cam follower riding in a horizontally oriented, curved slot in a vertically operating actuator.

6. The compound indenter of claim 5 wherein the vertically operating actuator is connected to be reciprocally driven by a pneumatic actuator.

7. The compound indenter of claim 4 wherein each cam surface is adapted to release each indenting element prior to full closure of the hand tool.

8. An indenter for a wire connector pin comprising;

a first indenter section having a first pair of opposed indenter elements having facing flat anvil surfaces and a second pair of opposed indenter elements having facing arcuate anvil surfaces, the first and second pairs of indenter elements being oriented at substantially ninety degree angles;

an operating mechanism adapted for compressing the indenter elements of the first pair towards each other to deform a portion of the connector pin into a generally oval configuration and to thereafter compress the indenter elements of the second pair into engagement with the deformed portion until the portion is compressed into a generally circular configuration.

9. The indenter of claim 8 wherein the pin has an axial length and an opening at an end thereof for receiving a wire having an exposed portion and an insulation covered portion, the opening being sized to receive both the exposed portion and a length of the insulation covered portion, the first indenter section being adapted for crimping the portion of the pin overlaying the insulation covered portion of the wire.

10. The indenter of claim 9 and including a second indenter section for crimping the connector pin in the portion overlaying the exposed portion of the wire.

11. The indenter of claim 10 wherein the first and second indenter sections operate substantially concurrently.

12. The indenter of claim 8 wherein the operating mechanism comprises a first rotatable cam surface engaging a distal end of each of the indenter elements.

13. The indenter of claim 12 and including manually operable plier type handles, one of the handles having the indenter elements mounted thereto and the other of the handles having the rotatable cam surface mounted thereto, whereby compressing of the handles toward one another is effective to rotate the cam surface with respect to the indenter elements for initiating radially inward movement of the indenter elements.

14. The indenter of claim 12 and including a pneumatically operated piston, an offset arm connected to the cam surface, and a reciprocally operable mechanism connected to the offset arm for effecting bi-directional rotation of the cam surface.

15. The indenter of claim 13 and including a second indenter section coupled in axial alignment with the first indenter section, the second indenter section having a plurality of indenting elements actuated by a second cam surface connected for concurrent rotation with the first cam surface, the second indenter section indenting the pin at a second portion thereof.

16. The indenter of claim 15 wherein the second indenter includes four indenter elements spaced circumferentially about the pin.

17. A method of sealing an insulated electrical wire to a connector pin, the pin having an enlarged opening for receiving a portion of the wire with the insulation intact, the method comprising the steps of:

compressing the pin at an end thereof overlaying the insulation using a first pair of opposed anvils such that the end of the pin assumes a generally oval circumferential shape; and

holding the pin in the first pair of opposed anvils so as to maintain the diameter of the pin between the anvils while compressing the pin in a perpendicular direction with a second pair of opposed anvils so that the material of the pin is compressed into tight engagement with the insulation.

18. The method of claim 17 wherein the first pair of opposed anvils have a flat contact surface and the second pair of opposed anvils are compressed forward into the pin in sliding contact with the flat contact surface of the first pair of opposed anvils.

19. The method of claim 18 and including the step of indenting the pin at a second location spaced from the end thereof concurrently with compression of the end so as to fix the pin to the wire.

20. The method of claim 19 and including a cam surface for engaging an outer end of the anvils for driving the anvils into engagement with the pin, the method including advancing the anvils into the pin by rotation of the cam surface.